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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,936	01/09/2002	Lars Langemyr	CMM-00202	4595
64313 7590 07/22/2008 NIXON PEABODY LLP 401 Ninth Street, N.W. Suite 900 WASHINGTON, DC 20004				
EXAMINER				
OSBORNE, LUKE R				
ART UNIT		PAPER NUMBER		
2123				
MAIL DATE		DELIVERY MODE		
07/22/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/042,936

**Applicant(s)**

LANGEMYR ET AL.

**Examiner**

LUKE OSBORNE

**Art Unit**

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 118-189 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 118-189 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/21/08 has been entered.

***Examiner of Record***

2. The Examiner of record has changed from Ayal Sharon, to Luke Osborne.

***Claim Status***

3. Claims 118-189 are pending in the instant application.

Claims 118-189 stand rejected.

Applicants' arguments submitted 4/21/08 have been fully considered, Examiners response is as follows.

Claims 118-189 of U.S. Application 10/042,936 are currently pending. The Application is a CIP of U.S. Application 09/995,222, filed on 11/27/2001, which claims benefit to U.S. Application 60/253,154.

The Application is also a CIP of U.S. Application 09/675,778, filed on 9/29/2000, which claims benefit to U.S. Application 60/222,394.

Parent Application 09/675,778 has recently been affirmed at the Board of Patent Appeals and Interferences (BPAI).

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 118-189 are rejected under 35 U.S.C. 101 because the claimed invention preempts a 35 U.S.C. 101 judicial exception. The claims preempt every "substantial practical application" of an idea - a mathematical algorithm.

One may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect be a patent on the [idea, law of nature or natural phenomena] itself." *Gottschalk v. Benson*, 409 U.S. 63,71-72, 175 USPQ 673,676 (1972).

According to MPEP 2106 (IV)(C)(3), a claim that recites a computer that solely calculates a mathematical formula (see *Benson*) or a computer disk that solely stores a mathematical formula is not directed to the type of subject matter eligible for patent protection.

All of the claims in the instant application share this defect. In particular, none of the independent claims are restricted to any field of application, and therefore the claims are directed to all possible applications of the math recited in the claims.

The specification of the parent application, U.S. Patent Application 091675,778, recites a variety of unrelated practical applications for the claimed mathematical results.

The only commonality between these different uses is the underlying mathematics.

Applicants claims are directed exclusively to the mathematics, and lack any recitation of specific and substantial practical application. Examiner therefore has determined that the claims attempt to patent every "substantial practical application" of an idea - a mathematical algorithm. Thus, the claims are nonstatutory.

Claims 118-189 are additionally found non-statutory because the claims fails to be embodied in, operate on, transform, or otherwise involve another class of statutory subject matter. The token or nominal recitations of using a processor and storing the result in a computer readable memory do not transform an unpatentable principle into a patentable process.

The claims are a method for developing partial differential equations and then solving them. The claims lack any specific application of the solving of the partial differential equations. The recitations that the method can be used with "at least one of a structural system, a fluids system, and an electromagnetic system" fail to produce an inventive application of the math that Applicants have discovered.

A mathematical formula does not suddenly become patentable subject matter simply by having the applicant acquiesce to limiting the reach of the patent for the formula to a particular technological use. A mathematical formula in the abstract is nonstatutory subject matter regardless of whether the patent is intended to cover all uses of the formula or only limited uses. Similarly, a mathematical formula does not become patentable subject matter merely by including in the claim for the formula token postsolution activity such as the type claimed in Flook.

### ***Response to Arguments***

Applicants amendments and arguments do not overcome the rejections of record. Applicants claim amendments provide no further insight into limiting the claimed invention beyond preempting every substantial practical application. Claim 118 is so abstract and sweeping as to cover both known and unknown uses of the method of modeling a physical system using a set of partial differential equations.

The output of the model and the display of the model are considered token or nominal postsolution activity. Outputting to a display is considered to be simply adding conventional method steps, and does not make the claim statutory.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUKE OSBORNE whose telephone number is (571)272-4027. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Luke Osborne/  
Examiner, Art Unit 2123

/Paul L Rodriguez/  
Supervisory Patent Examiner,  
Art Unit 2123